

DEPARTMENT OF WATER RESOURCES

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DEC 03 2010

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The Supplemental Report of the 2007 Budget Act (Item 3860-001-0001), dated August 2007, requires the Department of Water Resources (DWR) to report to the Chairs of the Senate and Assembly fiscal committees on DWR's efforts to reduce dependency on fossil fuels and changes to its portfolio of power contracts for both the State Water Project and the California Energy Resources Scheduling (CERS) Division. The passage of Senate Bill (SB) 85 in August 2007, which added Section (§)142 to the California Water Code, requires DWR to submit an annual report addressing the reductions in its greenhouse gas emissions related to water and energy use.

This report highlights the progress DWR has made in reducing its State Water Project emissions by investments in energy efficiency projects and plans to phase out a fossil fuel contract. It also characterizes the energy portfolio of CERS, which was created during California's 2000-2001 energy crisis in response to calls by the Governor and the Legislature for DWR to purchase power for California's Investor Owned Utilities.

If you have any questions, please contact me at (916) 653-7007 or your staff may contact Raphael Torres, Deputy Director for the State Water Project at (916) 653-8043.

Sincerely,

A handwritten signature in black ink, appearing to read "Mark W. Cowin".

Mark W. Cowin
Director

Attachments

Distribution List

Electronic copy of one-page summary
distributed to all members of the Legislature

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The California Department of Water Resources Report on Reducing the State Water Project's Dependency on Fossil Fuels and Changes to the State Water Project's Power Contracts Portfolio

Executive Summary

The Department of Water Resources (DWR) shares California's goals for mitigating climate change impacts and effective management of carbon. DWR makes use of a diverse energy portfolio to meet California's water needs. DWR is reducing its annual greenhouse gas (GHG) emissions and fossil fuel dependency through:

- Defining its 1990 carbon footprint consistent with California's compilation of statewide GHG emissions and sinks (DWR will exceed California's 2010 and 2020 emission reductions targets);
- Maintaining an optimal balance between loads and resources on the State Water Project (SWP) water conveyance system;
- Refining its programs to quantify and accurately report the SWP's operational impact on California's emissions reductions goals;
- Invoking environmentally sustainable energy strategies that are also responsive to hydrology, water delivery, facilities requirements, and energy market events;
- Researching and investing in technologies that increase the SWP's percentage mix of cleaner, more efficient resources;
- Offering clean hydroelectric generation to the electric grid during critical peak hours;
- Improving the water to energy conversion ratios at key SWP hydroelectric facilities - by 2011 annual GHG emissions savings attributable to DWR's hydroelectric energy efficiency projects will equal 48,000 metric tons of carbon dioxide (CO₂);
- Since 1983, DWR has received up to 235 megawatts (MW) of energy from Unit 4 of the Reid Gardner Power Plant, a coal-fired facility in Nevada. DWR will not extend or renew the agreement upon its expiration in July 2013.

DWR's strategy and future policies to meet California's emissions reductions goals are reflected in this and other reports to the Governor and Legislature.



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Introduction

The Department of Water Resources (DWR) is pleased to submit to the Legislature and to the Governor its report on the status of DWR's efforts to reduce its dependency on fossil fuels. The report is associated with the passage of Senate Bill (SB) 85 in August 2007, which added Section (§)142 to the California Water Code addressing the reductions in greenhouse gas (GHG) emissions related to water and energy use.

Specifically, §142(a) requires that, by March 1, 2008, and at least annually through 2015, DWR will report:

- (1) The status of any contracts it has for fossil fuel generated electricity and its efforts to reduce its dependency on fossil fuels; and
- (2) Changes to the existing energy portfolio that alters the contracts' costs, term, quantity, or composition of resources that deliver power under the contracts.

The first portion of this report focuses upon the status of the contracts and the changes to the power portfolio for the State Water Project (SWP). The second portion shows the status of DWR's California Energy Resources Scheduling (CERS) Division's long-term power contract portfolio.

State Water Project Power Portfolio Overview

DWR is responsible for monitoring, conserving, and developing California's water resources, providing public safety, and preventing property damage related to water resources. The Department's mission is to ensure that all projects undertaken by DWR benefit the State and protect, restore, and enhance natural ecosystems and human environments.

DWR develops and administers a comprehensive power resources program for the strategic timing of generation and pumping schedules, purchase of power resources and transmission services, short-term sales of energy surpluses, and studies of resources for future needs. Averaged over the past three years (2007 through 2009, hydroelectric generation comprised 44 percent of SWP power resources. Market based purchases and exchanges, and Reid Gardner Unit No. 4 equaled 43 percent and 14 percent of the SWP power purchase portfolio, respectively. In the same timeframe, hydrogeneration decreased by 35 percent; portfolio purchases and Reid Gardner Unit No. 4 decreased by 40 percent and 15 percent, respectively.



The SWP's energy portfolio is made up of the SWP's own hydropower resources, including the Hyatt-Thermalito Pumping-Generating complex, the SWP aqueduct's recovery plants (Gianelli, Alamo, Devil Canyon, and Warne), and the Mojave Siphon generation plant.¹ The SWP receives additional hydroelectric energy and capacity through long term agreements with the Kings River Conservation District (KRCD), the Los Angeles Department of Water and Power (LADWP), and the Metropolitan Water District (MWD). With respect to non-hydroelectric energy resources used by the SWP, under the *Reid Gardner Unit 4 Participation Agreement*, DWR receives up to 90.40 percent energy output from Reid Gardner Power Plant Unit 4.

Table 1 summarizes SWP generation capacity by plant facility, as well as the capacity associated with the energy share the SWP may receive from Reid Gardner Power Plant Unit 4.

Table 1. SWP Generation Capacity

SWP Power Plant	Capacity (MW)
Hyatt	819
Thermalito	113
Pine Flat	210
Gianelli	424
William Warne	76
Castaic	120
Alamo	16
Mojave Siphon	14
Devil Canyon	235
Reid Gardner Unit No. 4	250
Total Capacity	2,277

DWR's market purchases make up the rest of the SWP's energy portfolio, which includes two medium-term market contracts for off-peak energy.

The development of reliable, clean and renewable energy sources and effective management of carbon are critical for national and global security, and environmental health. To mitigate climate change impacts, California shares the national and international goal of reducing GHG emissions, expanding energy efficiency programs and renewable energy resources, and implementing low-carbon fuel standards. With its diverse energy portfolio to meet California's water and energy needs, DWR is reducing its GHG emissions and fossil fuel dependency by:

¹ Gianelli Pumping-Generating Plant is a joint DWR and U.S. Bureau of Reclamation (USBR) facility; DWR's share is 222 MW; USBR's share is 202 MW.



- Maintaining a continuous balance between resources and demand on the SWP's system through: self-generation of clean hydroelectric power, load management, exchange agreements, and purchase and sales transactions. DWR analyzes SWP transactions data for trends in energy usage and emissions resulting from its legislatively mandated responsibilities.
- Coinciding with the Governor's Executive Order S-3-05 (*The Impacts of Climate Change*) and Assembly Bill 32 (AB 32 -- *The Global Warming Solutions Act of 2006*), DWR is continually refining its programs to quantify and accurately report the SWP's operational impact on California's emissions reductions goals. DWR communicates extensively with government and private entities to ensure that its efforts align with national and State legislation and policy directives.
- AB 32 mandates the reduction of California's GHG emissions to 1990 levels by 2020. DWR defines its 1990 carbon footprint consistent with California's GHG inventory, a compilation of statewide GHG emissions and sinks.² To date, DWR applies calendar years 1990 and 2007 as reference years to quantify the SWP's carbon footprint. Under either scenario, DWR will meet or exceed California's 2010 and 2020 benchmark emission reductions goals.
- DWR's environmentally sustainable energy strategies are dependent upon hydrology, water deliveries, SWP equipment and facilities requirements, and energy market events.
- DWR is investigating technologies such as highly efficient combined-cycle, combined heat and power generation, solar, and wind energy to increase the SWP's percentage mix of cleaner, more efficient resources.
- The SWP's hydrogeneration resources displace energy from carbon producing generators that meet California's peak electricity demand. The SWP lowers the wholesale power grid emissions by offering clean hydroelectric generation to the market on peak hours.
- In 2007 and 2008, DWR participated in the California Demand Response Program through contracting to drop up to 200 MW of the SWP's pump load for up to 24 hours per month, from May through September each year during peak demand hours. The program reduces GHG emissions by decreasing the amount of peak generation served by inefficient, high carbon emitting resources.³ In 2007, DWR provided for the avoidance of using 7,600 megawatt hours (MWh) of

²See http://www.arb.ca.gov/cc/inventory/data/tables/ghg_inventory_by_ipcc_2007-11-19.xls. The California Air Resources Board (ARB) inventory draws upon data from the Intergovernmental Panel on Climate Change Second Assessment Report.

³Inefficient, high emitting "peaker" plants are generally brought on line when power demand is high, and there are no other alternatives.



electricity during the peak summer demand. In 2008, DWR reduced its pumping load by 2,200 MWh during California's peak demand period.

- DWR invests substantial resources in engineering feasibility and design studies to implement programs to improve the optimal water to energy conversion ratios at key SWP hydroelectric facilities. DWR's energy efficiency programs include pump and turbine replacements and refurbishments using advanced technologies to increase the SWP's overall system performance. The programs substantively reduce overall carbon emissions since the SWP hydroelectric units use less energy to move more water, and generate more power with less water.
- DWR's energy efficiency improvements at the Hyatt Generation Plant are complete. The Edmonston Pumping Plant project will continue through 2011. DWR's preliminary estimates suggest that by 2011, annual GHG emissions savings will equal 48,000 metric tons of carbon dioxide (CO₂) attributable to DWR's hydroelectric energy efficiency projects.
- AB 32 mandated the California Air Resources Board (CARB) to adopt compulsory regulations for reporting of statewide GHG emissions by January 1, 2008, incorporating the standards and protocols developed by the California Climate Action Registry (CCAR). Since June 2009, DWR has submitted annual Mandatory Greenhouse Gas Reports to the CARB. The report includes energy data for SWP generation, pump loads, hydroelectric unit capacities, and the SWP power purchase portfolio.
- DWR's membership in California's Climate Registry and its participation in California's mandatory reporting requirements under AB32 serve as consistent and transparent mechanisms to report, update, track and verify DWR's carbon footprint. DWR's strategy and future policies to meet California's emissions reductions goals are reflected in these reports. DWR's third emissions report to the CCAR is due in June 2010. Independent verification for DWR's 2008 report to the CCAR was successfully completed in February 2010.
- DWR is currently in the process of analyzing its 2009 energy data to report to the CARB and to the CCAR in June 2010. DWR is also selecting an independent verifier for its annual report to the CARB under the California Mandatory Reporting Requirements for its 2009 electricity portfolio. DWR will select a verifier by May 2010. The verification process will conclude in December 2010.
- The California Public Utilities Code §8341 requires that load-serving entities not enter into a long-term financial commitment, unless the baseload generation complies with the GHG emission performance levels established by the California Public Utilities Commission. DWR is not defined as a load-serving entity under this statute. Nevertheless, DWR will meet the intent of this



legislation.⁴ Since 1983, DWR has received up to 235 megawatts (MW) of energy from Unit 4 of the Reid Gardner Power Plant, a coal-fired facility in Nevada. DWR will not extend or renew the agreement upon its expiration in July 2013.

Energy Required to Convey State Water Project Water

The SWP's electric power requirements are met with DWR's own and jointly developed hydroelectric facilities, and long-term and short-term purchase agreements. DWR enters into agreements so that the SWP can sell, buy, and exchange capacity or energy to promote the most efficient use of its generating resources and the scheduling of water deliveries. The SWP's energy portfolio includes:

Hydroelectric Generation: Hydropower is renewable energy, since it is "energy drawn from a source that is infinite or is replenished through natural processes. Such sources include the sun, wind, heat from the earth's core, biomass, and moving water."⁵ Clean, hydroelectric generation typically provides almost half of SWP power resources.

Joint Development Agreements: In 1966, DWR contracted with the Los Angeles Department of Water and Power (LADWP) for the joint development of the Castaic Power Plant. Although part of the SWP system, the Castaic Power Plant is operated by LADWP, and electrically connected to their system at the Sylmar Substation. SWP receives capacity and energy based upon LADWP's weekly water schedules.

Contractual Arrangements: DWR takes delivery within California for energy through long-, medium-, and short-term agreements with marketers and utilities, including:

- All hydroelectric output from the run-of-river 210 MW Pine Flat Power Plant, owned and operated by the Kings River Conservation District (KRCDD).
- 30 MW total capacity from five small hydroelectric plants owned and operated by the Metropolitan Water District (MWD) of Southern California.⁶
- Hydroelectric energy from MWD's off-stream facility Diamond Valley Lake Wadsworth Plant. The facility consists of 12 generators rated at 3.3 MW each.
- A 1988 Coordination Agreement, which allows DWR to purchase surplus energy from MWD's Colorado River Aqueduct system.

⁴ Refer to <http://law.onecle.com/california/utilities/8341.html>, §8341, part (a).

⁵ Refer to <http://www.energy.ca.gov/2005publications/CEC-300-2005-010/CEC-300-2005-010-FS.PDF>

⁶ Located at Lake Mathews, Foothill Feeder, San Dimas, Yorba Linda, and Greg Avenue in the Los Angeles area



- 100 MW of off-peak energy through 2010, and 200 MW of off-peak energy through 2015 from two market contracts sourced primarily from natural gas.
- DWR receives energy from the Reid Gardner coal-fired generation facility in Moapa, Nevada. DWR receives up to 235 MW from Reid Gardner Unit No. 4. This contract will expire in July 2013 and will not be renewed.
- The SWP relies upon market contracts and exchange agreements with energy from unspecified sources. The emissions from these contracts and agreements are derived from emissions assigned to California's mix of energy resources.



The State Water Project Water 2008 Preliminary Energy Portfolio

The SWP's generation portfolio for calendar years 2007-2009 is summarized below.⁷

Table 2. SWP 2007-2009 Energy Portfolio⁸

SWP Generation Resources (GWh)	Year		
Source	2007	2008	2009
Alamo Powerplant	58	65	56
Castaic Power Plant	859	582	612
Devil Canyon Powerplant	1,153	679	555
Mojave Siphon Powerplant	74	41	32
Pine Flat	195	246	270
Gianelli Pumping-Generating Plant	246	140	56
Hyatt - Thermalito Powerplant Complex	2,072	990	1,451
Warne Powerplant	465	316	284
Off Aqueduct Small Hydro	145	147	102
<i>Hydrogeneration</i>	5,266	3,206	3,417
Unspecified Market Energy	4,956	3,715	2,983
Reid Gardner Unit No.4 Imports	1,387	1,134	1,175
<i>Fossil Fuel Generation</i>	6,343	4,849	4,158
Total Resources	11,608	8,055	7,575
Market Sales (Surplus Energy)	2,258	2,335	1,476
Total (Net) Resources	9,350	5,720	6,099

⁷ SWP energy data is subject to change, based upon the financial settlements process, as well as the validation necessary for publication in Bulletin 132. This verification process may continue for one or more years, until final publication in the Bulletin.

⁸ Minor variances in subtotals or totals are to the result of rounding.



Table 3 illustrates the marked change in SWP pumpload demand and generation resources over the past three years. SWP pumpload and hydrogeneration decreased from 2007 to 2009 by 40 percent and 35 percent respectively. This trend is also reflected predominantly in the 40 percent decrease in power purchases made from unspecified market energy sources from 2007 to 2009, as illustrated in the previous table.

Table 3. SWP Pumping and Generation Profile

SWP Annual Profile (GWh)	Year		
	2007	2008	2009
SWP Pumpload Demand	9,270	5,697	5,414
Hydrogeneration Resources	5,121	3,059	3,315

CO₂ Emissions Accounting Methodology

CO₂ emissions reported to the CCAR for the SWP power purchase portfolio are summarized in Table 4 below. DWR applied emissions factors and guidelines cited in the CCAR's Reporting Protocols. The CCAR protocols integrate data sources from the Environmental Protection Agency (EPA), the Energy Information Administration (EIA), and the Federal Energy Regulatory Commission.

Hydroelectric, nuclear, and renewable energy have zero carbon emissions factors. SWP's purchases and exchanges from unspecified sources reflect the most recent emissions rates reported to the CCAR, the US EPA, and directly to DWR.⁹

The Reid Gardner Unit 4 CO₂ emissions rate is calculated using the EPA Clean Air Markets Division database which is updated quarterly.¹⁰ This rate is applied to the daily energy imported into California to serve SWP pumpload demand.

⁹ With the exception of one counterparty whose emission rate was only available for 2005.

¹⁰ NV Energy reports emissions to the EPA CAMD on a quarterly basis, based upon direct measurements acquired through its continuous emissions monitoring (CEM) system. The EPA publishes its CAMD emissions data three months after the fact.

**Table 4. SWP Annual Energy Portfolio CO₂ Emissions**

State Water Project Portfolio Annual CO₂ Emissions (MMT)			
Source	2007	2008	2009
Market Purchases	1.70	1.43	0.99
Reid Gardner Unit No. 4	1.40	0.96	1.03

DWR Membership in the California Climate Action Registry

To track GHG emissions associated with SWP operations and bulk power transactions using a standard mechanism, in 2007 DWR began reporting its overall energy use and GHG emissions using the CCAR's web-based Climate Action Registry Online Tool. DWR's 2007, 2008, and 2009 reports are based on the CCAR's General and Power/Utility Reporting Protocols; the latter addresses emissions within the electric power and utility sectors. The data in Table 4 above was reported to the CCAR.

Phasing Out Carbon-Intensive Energy Resources

The electric power needed to operate the SWP comes from its own and jointly developed hydroelectric facilities, long-term and short-term purchase and exchange agreements, and a 30-year agreement with NV Energy (formerly known as Nevada Power Company). Since July 25, 1983, DWR has received up to 235 MW from Unit 4, one of four units at the Reid Gardner coal-fired generation facility located in Moapa, Nevada. Upon contract expiration, DWR will replace this energy with a combination of cleaner, more efficient resources, and through continuing improvements to the SWP system resources and strategies.

Investment in Low Emissions Technologies for the SWP

CO₂ emissions from electric power generation are influenced by the efficiency factors associated with converting fossil fuels into electricity, as well as the type of fuel used. Emissions factors associated with coal-fired generation are almost twice that of natural gas powered generation. In a typical power plant, only 30 percent of the energy is actually converted into electricity. Improvements in generation efficiency by replacing traditional power generators with more efficient technologies can result in lower CO₂ emissions. Consequently, DWR is investigating ownership interest and contractual agreements in technologies such as combined-cycle generators, and combined heat and power systems. Energy from combined-cycle gas turbines is rated for emissions that average 800 pounds CO₂ per MWh.



In 2009, DWR finalized its participation in the construction of a new, state-of-the-art combined-cycle natural gas plant. The new facility will employ advanced emission control technology, be highly efficient and replace a portion of the SWP power needs now served by coal fired generation.

SWP Operational Flexibility and Energy Efficiency Programs

Hydroelectric power plants avoid increased releases of GHGs, making a substantial contribution to diminishing emissions from fossil fuel plants. Consistent with AB 32, achieving high levels of efficiency of pumps and generators is one of many strategies DWR engages in to help California meet the GHG emission reduction goals and stabilize the costs of delivering water.

The Edmonston Pumping Plant and Edward Hyatt Power Plant are key SWP-owned hydroelectric facilities where major energy efficiency projects have been undertaken. DWR anticipates that upon completion in 2011, the two energy efficiency projects will reduce GHG emissions by 48,500 metric tons of CO₂ annually. DWR is evaluating the feasibility of additional energy efficiency upgrades at Edmonston, which would start in 2013 and extend through 2020.

Table 5 illustrates the cumulative energy savings and fossil fuel emissions equivalents associated with the energy efficiency improvements from 2003 through 2020. This table reflects the weighted average of the emissions rates from the SWP's energy portfolio.

**Table 5. SWP Energy Efficiency and Emissions Reductions
Years 2003 – 2020**

Energy Efficiency Program	Cumulative Energy Savings (megawatt hours)		Cumulative Emissions Reductions (metric tons CO₂)		Equivalent Emissions Savings
Years	Hyatt Generation	Edmonston Pumping	Hyatt Generation	Edmonston Pumping	Automobile Equivalents
2003-2007	306,949	5,951	117,753	2,283	21,985
2008-2020	1,721,443	763,000	660,386	175,297	174,559
Total by Plant	2,028,392	768,951	778,139	177,580	196,544
CUMULATIVE TOTAL	2,797 gigawatt hours		0.95 million metric tons CO₂		196,544 autos



In 2006, DWR completed the construction of a new reservoir known as the Tehachapi East Afterbay. The reservoir provides water storage for the SWP's "Valley String" pumping plants,¹¹ reduces pumping during peak demand periods, and provides ancillary services to California's energy grid. The reduction in peak energy demands diminishes reliance on "peaker" plants that provide extra power during periods of peak usage, but generally not as efficient and produce higher GHG emissions.

The Tehachapi Second Afterbay may provide storage upstream to accommodate an additional small hydrogeneration unit at the Alamo Power Plant in Southern California. DWR's feasibility technical studies on the viability of adding a second unit rated at 14 MW continues in 2010. The schedule is contingent upon studies of climate change impacts on runoff and from pumping restrictions for the Delta smelt and salmon.

Reducing Fossil Fuel Use in the CERS Contracts – Replacement with Less Polluting Energy Resources

In response to California's 2000-2001 energy crisis, the Governor and the Legislature directed DWR to purchase electricity for California's investor-owned utilities (IOUs) and to assemble a portfolio of long-term power contracts to provide reliable electric service at the lowest-possible price. DWR created the California Energy Resources Scheduling (CERS) Division which entered into power contracts to provide more than 20 percent of the electricity used by IOUs' customers. These power contracts provided the guaranteed revenue that allowed for the financing and construction of over 5,000 MW of state-of-the-art natural gas-fired power plants. These cleaner, more fuel efficient natural gas-fired power plants have significantly reduced reliance on older, less-efficient plants in the State and have contributed to a reduction in carbon emissions of approximately 1.66 million tons annually.

DWR originally entered into contracts with 28 counterparties to provide 56 energy products. Six of the agreements were for renewable power, and included two contracts totaling 31 MW for biomass power, one 25 MW contract for geothermal power, and three contracts for a total of 172 MW of wind power.

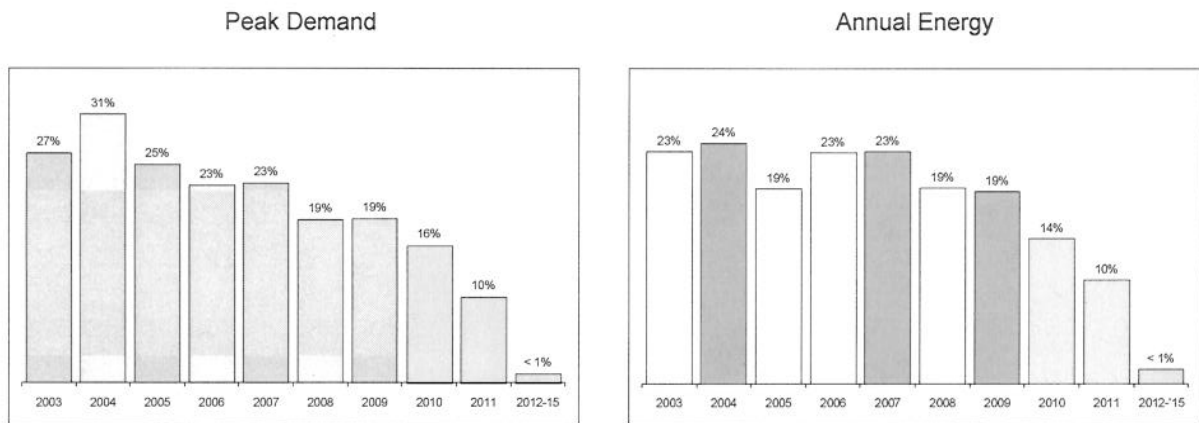
The Legislature required DWR to consider a number of factors when entering into contracts for power, including the intent to achieve an overall portfolio of energy contracts offering reliable service at the lowest possible price and to secure as much power under contract as possible from renewable energy resources.

As opportunities for contract amendments arise, DWR considers options that could both increase the amount of energy from renewable resources in its portfolio and provide reliable, reasonably-priced electricity.

¹¹ Dos Amigos, Buena Vista, Teerink, Chrisman, and A.D. Edmonston

Nine years after the energy crisis, DWR continues to provide electricity that will meet nearly 16 percent of the IOU customers' electricity demands in 2010. Twenty-five contracts remain in effect with an estimated cost of \$4.9 billion. By 2012, only four contracts will remain providing less than 1 percent of the IOU's customers' demand. The last contract expires in 2015, as illustrated in Figure 1.

Figure 1. CERS Contracts as a Percent of IOU Peak Capacity & Annual Energy Demand



The Generation Mix of the CERS Portfolio

For 2010, the estimated mix of generation from the CERS portfolio is:

Table 6. CERS Generation Energy Portfolio in 2010

Source	Contract Capacity (MW)	Energy (GWh)
Wind	172	462
Natural Gas	4,799	13,451
Non-Specific	2,713	21,146
TOTAL	7,684	35,059

While most of the energy in the DWR portfolio comes from newly constructed, fuel efficient, natural gas-fired plants, some of the DWR contracts are with power marketers who do not own any generation, or with counterparties that have the option to provide power from market sources when it is cheaper to do so. Roughly, 60 percent of the energy CERS contracts are forecasted to provide in 2010 will come from non-specific market sources, which cannot be traced back to a specific generator. The source of the power could be hydro, nuclear, biomass, wind, solar, natural gas, or coal or some mix of these resources. Electricity from CERS contracts with renewable energy resources will



provide 1 percent of the CERS total, while electricity generated from natural gas facilities is estimated to provide 39 percent.

Between now and when the CERS contracts end in 2015, DWR will have limited opportunity to re-negotiate the contracts to increase the amount of electricity derived from renewable energy resources.

Role in Statewide Energy Supply

DWR's authority to enter into new contracts ended in 2002. Its temporary role in providing power limits its ability to renegotiate contracts to bring new renewable energy projects on-line. Developers of new renewable energy projects need long-term contracts in order to get financing for the projects.

For DWR to replace fossil generation in the portfolio of contracts with renewable energy, and still limit its involvement in energy markets to no longer than 2015, would require DWR to compete against the California IOUs for power from existing renewable energy projects. This would only exacerbate the problem the IOUs are currently facing in meeting the State's renewable portfolio standard goal.

Due to the unique circumstances of the CERS contracts and limitations on contract term-renegotiation, it is unlikely that fossil fuel use in the portfolio of CERS will be appreciably reduced.

Conclusion

DWR will continue its role as the State's third largest generator of clean hydropower. DWR is currently investigating ownership interest and contractual agreements to not only replace its coal generating resources, but also to reduce its overall dependency on fossil fuels. This can be accomplished with technologies such as combined-cycle generators and combined heat and power systems to replace the coal-based energy with a combination of cleaner, more efficient resources, improvements to the SWP system, and renewable energy resources. DWR's membership in the CCAR, TCR and participating in AB32 mandated reporting regulations provide the vehicle for DWR to track and report its CO₂ and GHG emissions, evaluate its progress in meeting and exceeding California's GHG emissions reductions goals, and influence the role DWR will play in mitigating the negative affects of climate change in California.